

## ABSTRACT

A first software program executing on a computing device emulates a second computing device executing a software program using emulated memory. The first software program permits the second software program to perform an operation on a contiguous portion of the emulated memory only when a pointer and a table entry both contain the same identifier, thus protecting against common types of memory usage errors in the second software program. The pointer has an address to the contiguous portion. The table entry maps to the contiguous portion. A plurality of table entries map to a respective plurality of contiguous portions of the emulated memory. A plurality of the pointers each contain the address to a respective contiguous portion of the emulated memory as well as containing an identifier corresponding to the respective contiguous portion of the emulated memory. The second computing device can be high or low in resources.